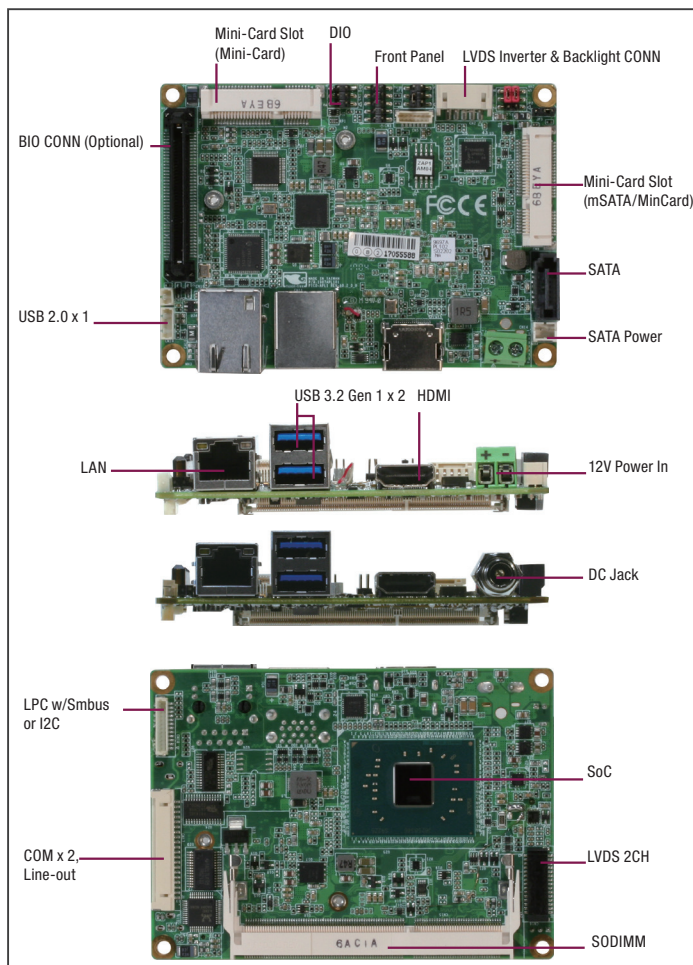


Pico-ITX Board with Intel® Atom™ E3900 series/ Pentium® N4200/ Celeron® N3350 Processor SoC



Specifications

System	
Form Factor	Pico-ITX
CPU	Intel Atom® x7-E3950 (4C, 1.6~2GHz, 12W) Intel Atom® x5-E3940 (4C, 1.6~1.8GHz, 9.5W) Intel Atom® x5-E3930 (2C, 1.3~1.8GHz, 6.5W) Intel® Pentium® N4200 (4C, 1.1~2.5GHz, 6W) Intel® Celeron® N3350 (2C, 1.1~2.4GHz, 6W)
CPU Frequency	Up to 2.5GHz
Chipset	Intel® Atom™ E3900 series/ Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	204-pin DDR3L SODIMM x 1, DDR3L 1867MHz, Max. 8GB
Max. Memory Capacity	Up to 8GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	AT/ATX (default)
Power Consumption (Typical)	Intel® N3350 Processor, DDR3L 8GB 0.91A@+12V
System Cooling	Heat-spreader/ heatsink optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.55 lb (0.25 kg)
Operating Temperature	32 °F~ 140 °F (0°C ~ 60°C),
Storage Temperature	-40 °F ~ 176 °F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	170,000
Certification	CE, FCC
OS support	Windows 10 (64 bit) Ubuntu 21.04.0/Kernel 5.10

Features

- Intel® Atom™ E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1867 MHz SODIMM x 1, Up to 8 GB
- 18/24-bit Dual Channel LVDS LCD (Optional)
- Supports Triple Display (Optional)
- HDMI 1.4b Supports 3840 x 2160 (4K x 2K)
- SATA 6.0Gb/s x 1, mSATA (Full Size) x 1
- Intel® Gigabit Ethernet x 1, RJ-45 x 1
- USB 3.2 Gen 1 x 2, USB 2.0 x 1
- RS-232 x 1, RS-232/422/485 x 1 (Optional by Cable)
- Mini-Card x 1 (Half-Size)
- Digital I/O 4-bit
- BIO Connector for Daughter Board (Optional)



Display	
Chipset	Intel® Atom™ E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
Resolution	LVDS (18/24bit 2CH) 1920 x 1200 (optional) HDMI 1.4b up to 3840 x 2160 DDI (BIO)
LCD Interface	18/24bit 2CH LVDS
I/O	
Storage/SSD	SATA 6.0Gb/s x 1
Ethernet	Intel® Gigabit Ethernet i211AT/i210IT, 10/100/1000Base-TX, RJ-45 x 1
USB Port	USB 3.2 Gen 1 x 2, Rear IO, USB 2.0 x 1
Serial Port	COM1: RS-232 x 1, COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
Audio	Line-out x1
DIO	4-bit (2-in, 2-out)
Expansion Slot	Mini Card (Half-size) x 1, BIO (optional) x 1, I2C or SMBus x 1 Full size mPCIe/mSATA or USB2.0 x 1 (SATA as default, PCIe selected by HW BOM)
SIM	—
TPM	TPM2.0 (Optional via LPC cable)

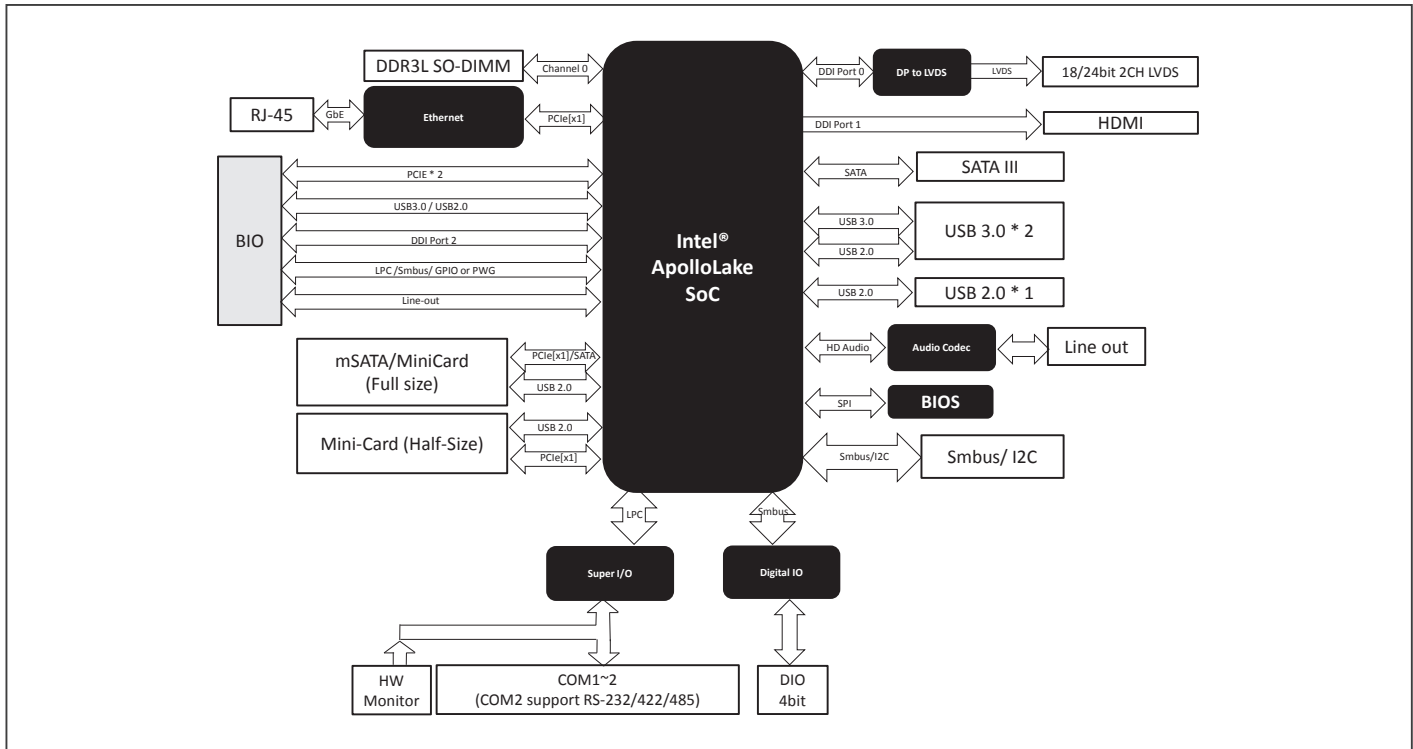
Packing List

- 1703200153 (Optional by model)
COM x 2, Line-out Cable
- PICO-APL1

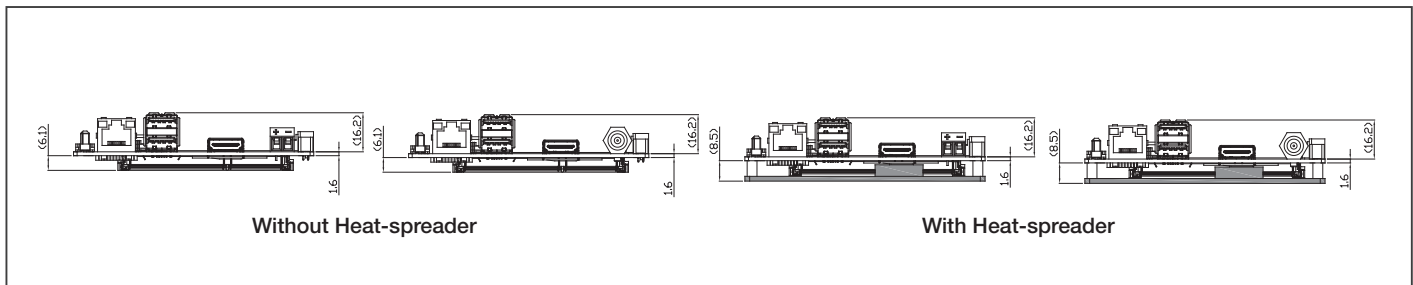
Optional Accessories

Part Number	Description	Qty.
1709070500	SATA CABLE.7P Pitch 1.27mm.50cm	1
1702150155	SATA Power Cable	1
1700050207	USB cable 20cm	1
1703200153	COM x 2, line-out cable	1
PICO-APL1-HSP01	Heat-spreader for PICO-APL1 N4200/N3350 SKUs	1
PICO-APL1-HSP02	Heat-spreader for PICO-APL1 E3950/E3940/E3930 SKUs	1
PICO-APL1-HSK02	Heat-sink for all PICO-APL1 series, to be used with Heat-spreader	1

Block Diagram



Dimension Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-APL1-A11-F001	N4200	W/o Heat-spreader	LVDS/HDMI	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	i211AT x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C ~ 60°C	DIO x 4, Line-out
PICO-APL1-A11-F002	N3350	W/o Heat-spreader	HDMI	—	SATA x 1, mSATA x 1 (Full-size)	i211AT x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	(Optional the COM cable)	(Optional the COM cable)	miniCard x 1 (Half-size)	12V DC-Jack	0°C ~ 60°C	DIO x 4
PICO-APL1-A11-F003	N3350	W/o Heat-spreader	LVDS/HDMI	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	i211AT x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C ~ 60°C	DIO x 4, Line-out, BIO
PICO-APL1-A11-F004	E3940	W/o Heat-spreader	LVDS/HDMI	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	i210IT x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C ~ 60°C	DIO x 4, Line-out

Remark: Heatspreader and cooler is recommended as the thermal solution.